

WHAT IS CLAIMED IS:

1. A method of analyzing a plurality of process control instruments adapted for use in a specific process control environment,
5 comprising the steps of:
receiving data related to the specific process control environment, in which the plurality of process control instruments are to be used, via a computer device; and
displaying performance characteristics for each of the plurality of the
10 process control instruments simultaneously via the computer device.
2. The method of claim 1, further including the step of calculating the performance characteristics for each of the plurality of process control instruments using the received data.
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3. The method of claim 1, further including the step of retrieving, from a memory of the computer device, the performance characteristics for each of the plurality of process control instruments based on the received data.
- 20 4. The method of claim 1, wherein the computer device is a personal computer.
5. The method of claim 1, where the computer device is a web-enabled device.
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6. The method of claim 1, wherein the plurality of process control instruments are each flow meters.

7. The method of claim 1, wherein at least one of the plurality of process control instruments is a Coriolis type of flow meter.

8. The method of claim 1, wherein at least one of the plurality of process control instruments is a vortex type of flow meter.

9. The method of claim 1, wherein at least one of the plurality of process control instruments is a magnetic type of flow meter.

10. The method of claim 1, wherein at least one of the plurality of process control instruments is a differential pressure type of flow meter.

11. The method of claim 1, wherein at least one of the plurality of process control instruments is a thermal mass type of flow meter.

12. The method of claim 1, wherein at least one of the plurality of process control instruments is an ultrasonic type of flow meter.

13. The method of claim 1, wherein the receiving step is performed by entering the data through a keyboard of the computer device.

14. The method of claim 1, wherein the receiving step is performed by downloading the data from a memory.

15. The method of claim 1, wherein the receiving step is performed by importing the data from a database.

16. The method of claim 2, wherein the calculating step involves the step of calculating performance characteristics of each of the plurality of process control instruments over an entire range of operation of each process control instrument.

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17. The method of claim 16, wherein the displaying step involves the step of displaying performance characteristics of each of the plurality of process control instruments in a graphical manner.

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18. The method of claim 17, wherein the displaying step provides a comparison between installed performance and performance at reference conditions.

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19. The method of claim 1, wherein the process control instruments are flow meters and wherein the step of displaying provides performance data as a function of flow rate from a maximum level to a minimum level.

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20. The method of claim 2, wherein the calculating step further includes the step of calculating the size of the process control instrument needed to satisfy the process control application.

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21. The method of claim 1, further including the step of saving the received data in a memory of the computer device.

22. The method of claim 21, further including the step of assigning an electronic tag to the saved data to facilitate later retrieval.

23. The method of claim 1, wherein the receiving data step includes receiving a selection of the plurality of process control instruments to be used in the analysis.

5 24. The method of claim 2, wherein the process control instruments are each flow meters, and wherein the calculating step includes the step of calculating flow meter accuracy as a continuous function of flow rate.

10 25. The method of claim 2, wherein the process control instruments are each flow meters, and wherein the calculating step includes the step of calculating straight pipe requirements for each of the flow meters.

15 26. The method of claim 2, wherein the process control instruments are each flow meters, and wherein the calculating step includes the step of calculating fluid pressure losses for each of the flow meters.

20 27. The method of claim 26, wherein the calculating step includes the calculation of pressure loss due to pipe fittings.

 28. The method of claim 27, wherein the calculated performance characteristics are displayed graphically.

25 29. The method of claim 28, wherein the graphical display includes pictorial representations of pipe, pipe fittings, and flow meters.

 30. The method of claim 2, wherein the calculating step involves calculating installed costs associated with the plurality of process control instruments.

31. A method of doing business, comprising the steps of:
providing a computer accessible website;
receiving data related to a specific process control application;
5 calculating performance characteristics for a plurality of
process control instruments capable of meeting requirements of the specific
process control application;
displaying the calculated performance characteristic for each of
the plurality of process control instruments; and
10 enabling one or more of the plurality of process control
instruments to be purchased.
32. The method of claim 31, wherein the receiving step
involves the step of prompting a user to enter specific information through the
15 computer device.
33. The method of claim 31, wherein the receiving step
includes the step of downloading stored data from a memory.
- 20 34. The method of claim 31, wherein the receiving step
includes the step of accessing data from a database.
- 25 35. The method of claim 31, wherein the process control
instruments are each flow meters, and wherein the calculating step includes
the step of calculating flow meter accuracy as a continuous function of flow
rate.
36. The method of claim 31, wherein the process control

instruments are each flow meters, and wherein the calculating step includes the step of calculating fluid pressure losses for each of the flow meters.

37. The method of claim 31, wherein the process control
5 instruments are each flow meters, and wherein the calculating step includes the step of calculating straight pipe requirements for each of the flow meters.

38. The method of claim 35, wherein the displaying step
10 includes the step of graphically displaying the calculated performance characteristics for each of the flow meters.

39. The method of claim 31, wherein the enabling step
15 includes the steps of receiving account information and authorization from a user and charging the account.

40. A method of analyzing flow meters from a group of potential flow meter types, comprising the steps of:
entering through a computer device, data parameters under which the potential flow meters will operate; and
5 receiving a graphical representation, through the computer device, of performance characteristics of each of the potential flow meters when operated according to the data parameters.

41. The method of claim 40 further including the step of ordering a
10 selected flow meter through the computer device based on the performance characteristics displayed for each of the potential flow meters.

42. The method of claim 40, wherein at least one of the data parameters is selected from the group of data parameters including fluid type,
15 pipe size, flow disturbances in fluid line, maximum flow rate, minimum flow rate, minimum process pressure, maximum process pressure, minimum fluid temperature, maximum fluid temperature, maximum ambient temperature, minimum ambient temperature and fluid density.

20 43. The method of claim 40, further including the step of selecting the types of the potential flow meters.

44. The method of claim 43, wherein the types of the potential flow meters are chosen from the group of flow meters including
25 vortex, magnetic, differential pressure, thermal mass, ultrasonic, and Coriolis type flow meters.

45. The method of claim 40, wherein the graphical representation plots accuracy of each type of flow meter as a function of flow rate.

5 46. The method of claim 40, wherein the graphical representation plots straight pipe requirements for use with each type of flow meter.

10 47. The method of claim 46, wherein the straight pipe requirements are separated into reducer pipe requirements, expander pipe requirements, distance upstream of the flow meter, distance downstream from the flow meter, and pipe fitting requirements, thereby illustrating total pipe space requirements.

15 48. The method of claim 40, wherein the graphical representation plots permanent pressure loss for each type of flow meter at both a maximum flow rate and a normal flow rate.

20 49. The method of claim 40, wherein the entering step is performed by downloading information from a memory device.

50. The method of claim 40, further including the step of storing the entered data in a memory of the computer device.